

REMARKS:

In the Office Action dated October 6, 2005, the Examiner stated claims 18-27 are pending in the application. Amendment "A" Prior to Action, filed with the original application papers on July 7, 2002, presented new claims 18-34. A copy of Amendment "A" Prior to Action is attached hereto. It is not known whether Amendment "A" Prior to Action was incompletely scanned, or whether the Examiner simply overlooked claims 28-34. Nevertheless, examination of all claims 18-34 on the merits is respectfully requested.

Claims 19-27 (Applicant assumes the Examiner meant claims 18-27) were rejected under 35 U.S.C. §112, second paragraph as being indefinite because of the use of the term "the group" in claims 18 and 23. This rejection is respectfully traversed because the term "the group" is part of the phrase "selected from the group consisting of...". As explicitly stated in MPEP§2173.05(h), Section I, the phrase "selected from the group consisting of..." is the standard, approved phrase for defining a Markush group. Since this phrase is approved for use in the MPEP, all claims of the application are submitted to be in compliance with §112, second paragraph.

Claims 18, 19 and 22 were rejected under 35 U.S.C. §102(e) as being anticipated by Kimura et al. Claims 20, 21 and 23-27 were stated to be allowable if rewritten to overcome the aforementioned rejection under §112, second paragraph.

Since this rejection has been overcome with regard to claims 23-27, those claims are submitted to be condition for allowance.

As to claim 18, the subject matter of claim 20 has been incorporated therein, and claim 20 accordingly has been cancelled. Claims 18, 19, 21 and 22 are therefore submitted to be in condition for allowance.

As noted above, claims 28-34 were not treated on the merits by the Examiner. Since claim 28 depends from claim 23, it is assumed that claim 28 is in condition for allowance for the same reasons that caused the Examiner to indicate that claim 23 contained allowable subject matter. Each of independent claims 29 and 33 has been amended to include subject matter comparable to the subject matter of claim 20 in each of those claims. In view

of the Examiner's statement that the subject matter of claim 20 was allowable over the prior art of record, amended independent claims 29 and 33, and the claims respectively depending therefrom, are submitted to be in condition for allowance.

5 Additionally, claim 33 has been editorially amended to conform the language of claim 33 to the recently-enacted guidelines for claiming subject matter embodied in a computer program. The language of claim 33 now conforms to the approved language set forth in MPEP§2106, Section IV.B.1(a).

10 Claims 18, 19 and 21-34 are therefore submitted to be in condition for allowance.

New claims 35 and 36 have been added, and are submitted to be patentable over the art of record for the following reasons.

15 In substantiating the rejection of original claim 18, the Examiner stated that the Kimura et al. reference provided a teaching to monitor a data signal containing a plurality of symbols, and to determine a plurality of most frequently occurring data components in the data signal, selected from the group consisting of most frequently occurring symbols and most frequently occurring sequences of symbols containing at least two symbols. Applicant
20 submits that the Kimura et al. reference provides a teaching only to analyze the input signal to determine most frequently occurring symbols, but does not provide a teaching to analyze the data signal as to the most frequently occurring "sequences of symbols containing at least two symbols." Since these alternative elements were listed in a Markush group, however, Applicant
25 acknowledges that for applying the prior art against such a Markush group, it is sufficient if a prior art reference teaches only one element of the Markush group, and this is why Applicant amended original claim 18 to bring the subject matter of claim 20 therein.

30 Claims 35 and 36, by contrast, are limited only to analyzing the data signal for the most frequently occurring "sequences of symbols containing at least two symbols," and Applicant submits that, because there is no teaching in the Kimura et al. reference to undertake such an analysis, claims 35 and 36

are not anticipated by, and are not obvious in view of, the Kimura et al. reference.

In substantiating the aforementioned rejection of original claim 18, the Examiner relied on the probability estimators 25, 26 and 28, respectively shown in Figures 5, 6 and 7 of the Kimura et al. reference. The Examiner also relied on the passage in the Kimura et al. reference at column 24, lines 5-26. This passage in column 24 refers to the aforementioned probability estimators respectively receiving a sequence of binary symbols and estimating the occurrence probability of the More Probable Symbols (MPS) for the binary symbols. In order to understand what is meant in the Kimura et al. reference by the term More Probable Symbols (MPS) it is necessary to review the passage in Kimura et al. beginning at column 2, line 10, wherein this term is explained.

As stated in this passage, under the assumption that the signal to be analyzed in the Kimura et al. reference will contain more binary "0" symbols than binary "1" symbols, binary "0" symbols are *defined* as More Probable Symbols, and binary "1" symbols are *defined* as Less Probable Symbols, abbreviated LPS. As further stated in this passage, the number of consecutively occurring binary "0" symbols is simply counted, until a binary "1" symbol occurs, and this count is then stored in an MPS memory. It is this stored MPS count that is used by the probability estimators 25, 26 and 28 in Figures 5, 6 and 7 of the Kimura et al. reference. The word "probable" in the terms More Probable Symbols and Less Probable Symbols, therefore, merely results from a *definition*, and is not the result of any calculation or counting. Moreover, the "probability" that is estimated in the probability estimators 25, 26 and 28 has nothing to do with the frequency of occurrence of the MPS count, but is an estimate of the likelihood that the MPS count actually occurred. This probability has nothing to do with the frequency of occurrence of that count, or any other count.

For example, in the Kimura et al. reference, if ten consecutive binary "0" symbols occurred, and then a binary "1" symbol occurred, the MPS count would be 10. This merely indicates a frequency occurrence of the binary "0"

symbol, but does not represent a frequency of occurrence of the ten consecutive binary "0" symbols. If, after the aforementioned binary "1" symbol, another sequence of ten binary "0" symbols occurred, followed by another binary "1" symbol, this would simply represent another MPS count of 10, but there is no teaching in the Kimura et al. reference that there is any recording or indication of the fact that two MPS counts have occurred that each happen to be equal to 10. This is because it is unimportant in the Kimura et al. reference to keep track of such frequency of occurrence information for sequences of symbols. In fact, as far as Applicant is able to determine, each of the aforementioned two sequences of ten binary "0" symbols in the Kimura et al. reference would be different codewords, whereas it is the purpose of the subject matter of claims 34 and 35 to assign those two, identically occurring sequences with the same codeword, as the basis for the data compression that occurs in accordance with the invention.

The Kimura et al. reference, therefore, does not provide a teaching to identify, detect or otherwise determine the frequency of occurrence of a *sequence* of symbols containing at least two symbols. The most that can be said of the Kimura et al. reference is that it determines (by the aforementioned MPS count) the frequency of occurrence of individual symbols, but not *sequences* of symbols.

Claims 34 and 25, therefore, are submitted to be in condition for allowance.

Early reconsideration of the application is therefore respectfully requested.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicant.